

exposed and the former wounded. A double ligature was applied—the wound was dusted over with iodoform, sutured, drained from the outer angle, and dressed with iodoform wool—a pad of wool was placed in the axilla, and the arm was bandaged to the chest. Except at its extremities the clavicle was infiltrated with sarcomatous growth which was composed of a mixture of round and spindle shaped cells. The wound was dressed on the second, fifth and seventh days after the operation. But the patient remained in a drowsy state which gradually passed into coma. On the ninth day after the operation, well marked optic neuritis of both eyes was detected; and a secondary growth in the brain was diagnosed. Subsequently both pupils became dilated and inactive to light; paraplegia supervened, and on the eleventh day after the operation the patient died.

On post mortem examination the wound was soundly healed and quite dry. There was distinct bulging towards the middle line of the inner surface of the right frontal lobe, and on section a round mass of growth about the size of a walnut was found in the white substance of the frontal lobe. No other growths in the brain could be found. There was a secondary sarcomatous deposit in the apex of the left lung close beneath the clavicle; there was also another mass at the base, a third at the foot, and other scattered patches. In the right lung there was a number of small deposits varying in size from a pea to a Barcelona nut. The other organs were healthy.—*Lancet*, April 14, 1888.

H. PERCY DUNN (London.)

VI. Arthroectomy. By H. H. CLUTTON, F.R.C.S. (London.) Mr. Clutton urges that the operation should be done directly it is found that treatment by apparatus to keep the joint absolutely at rest has failed. If thus done at an early period the disease will not be too advanced and an excision thus rendered unnecessary. He considers that it cuts short the disease, and the patient makes a much more rapid recovery. No attempt should be made to obtain a movable joint. As to the method of operating, he says, "the joint being widely opened all the synovial membrane which is obviously diseased is removed with scissors or scalpel. If only a sharp spoon were used, the diseased parts could not be thoroughly taken away, for the *surface* alone is soft

enough to be removed by this instrument. As a general rule there is a very distinct interval between the gelatinous synovial membrane and the capsule which serves as a guide to the operator during this dissection. The capsule and fibrous tissue surrounding the joint is retained, so that it may again be united after the operation is completed. When the larger masses have been removed in this way with scissors, the margin of the articulation itself is treated and here it will be found that the sharp spoon is invaluable, as it loosens the attachment of the synovial membrane to the bone and cartilage, and enables the operator subsequently to apply the scissors with effect. Each ligament is in turn now examined, and the parts behind and under cover thoroughly scraped out; but unless the ligament has been seriously softened, and thereby rendered useless, it is carefully preserved.

The articular cartilage is next examined; if it feels solid and firmly attached to the bone beneath, it is not removed, but any opening or deficiency is enlarged. The gouge or sharp spoon can then remove as much of the softened area as is thought desirable. When the cartilage on the other hand, is found loosely attached over the greater part of the surface of the joint, it is all easily scraped off and removed. "In speaking of the operation on special joints Mr. Clutton makes a few suggestions. In the knee instead of the old curved incision through the ligamentum patellæ or a vertical incision and dividing the patellæ, he makes "a long curved incision through the extensor tendon just above the patella and prolonged downwards on each side to the line of articulation. The patella is then reflected downwards." A drainage tube should always be passed through the popliteal space between the two popliteal nerves. If the joint is found to be very movable two ivory pegs may be driven up from each head of the tibia into the corresponding condyle of the femur, a passage for them having been first drilled. In two cases in which he performed this operation on the ankle he found it necessary to make four incisions, namely, one in front and one behind each malleolus.

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